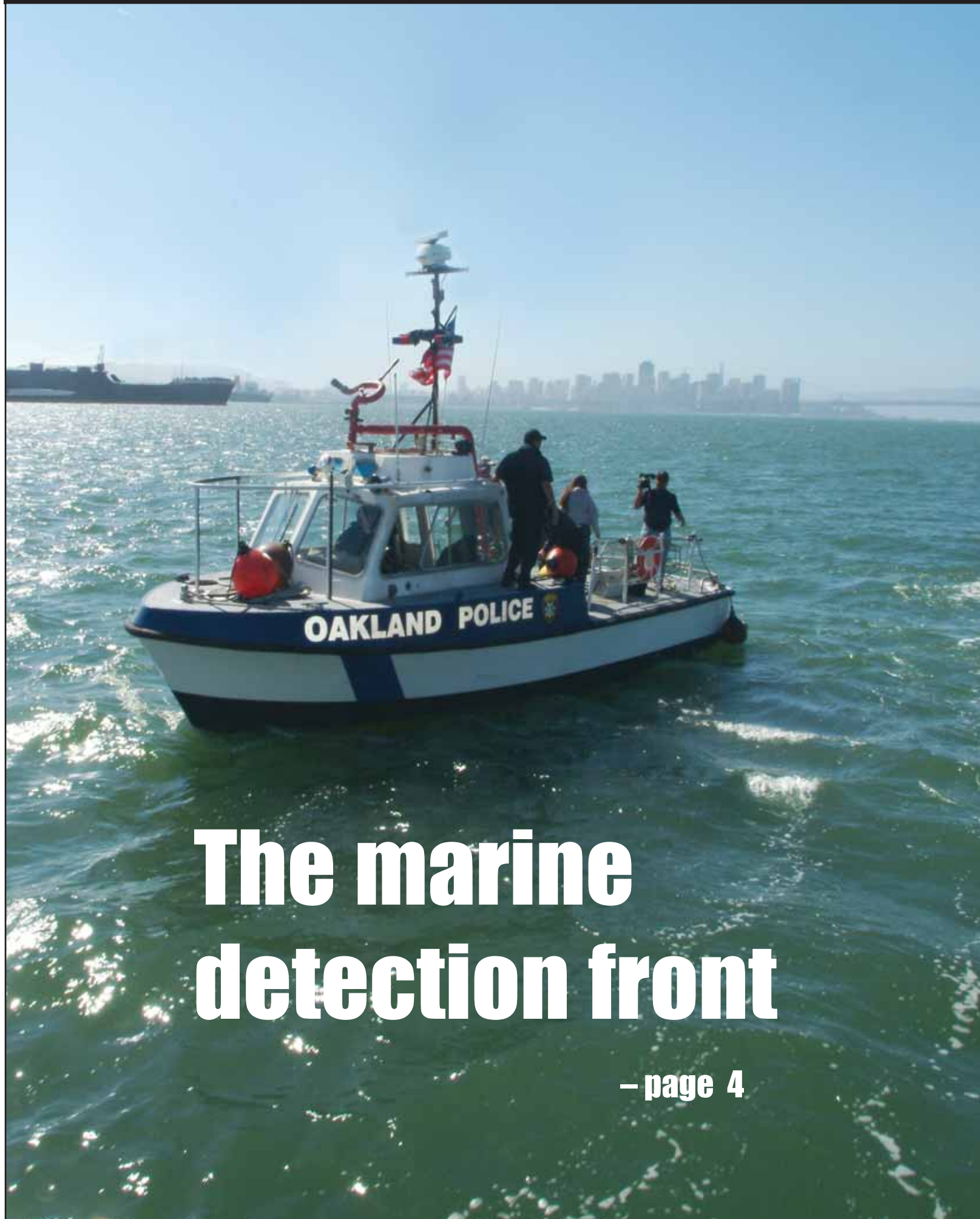


NEWSLINE

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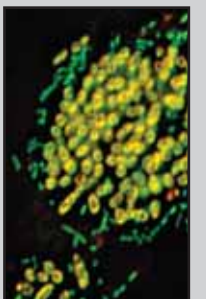
The marine detection front

— page 4

WHAT'S INSIDE



A WAY TO
UNDERSTAND CELL
FUNCTION
PAGE 3



USING GENETICS
TO IMPROVE SEWAGE
TREATMENT
PAGE 5



DRAGON BOAT
RACING BECOMES
MONSTER SPORT
PAGE 8

LAB ANNOUNCEMENTS

Committee recommends UC compete for Lab contract

The University of California Board of Regents' Committee on Oversight of the Department of Energy Laboratories voted Sept. 20 to recommend to the full board that the university compete for the management and operations of Lawrence Livermore National Laboratory.

The full board endorsed the committee's recommendation Sept. 21. The final bid, due Oct. 12, will be submitted by a team led by UC and Bechtel National.

Acting on the recommendation of UC President Robert Dynes, the committee voted to authorize the university, acting through regents' chairman Gerald L. Parsky, to take actions necessary to submit a proposal to the DOE in response to the July 14 request for proposals.

At their July meeting, the regents appointed LLNL



Director George Miller as team leader for the competition. Should the UC-Bechtel led proposal win the new contract, Miller would be named director of the Laboratory.

"For the past 54 years, the men and women at Livermore laboratory have ably served our nation, providing scientific and technological excellence that has made this country safer and improved the quality of life," said Dynes. "I firmly believe that our team's proposal will build upon their successes, dedication and hard work. Our proposal will be strong and responsive to DOE and the needs of our nation."

As required by the request for proposals (RFP), UC and Bechtel will form a separate corporate entity to act as prime contractor to manage the Laboratory.

"For more than a half-century, the Livermore

Laboratory has performed its public service in the most exemplary fashion through its innovations in energy research and advances in national security," said Parsky. "The University of California has played a vital role in those achievements, and we look forward to contributing our talents and resources to deliver science and technology in the best interests of our country."

As specified in the RFP, current Livermore employees who do not terminate employment or retire will be moved to the new corporate structure and will retain their current benefits and pensions to the extent legally permissible under DOE's new requirements.

Bechtel National provides world-class program and project management, facilities management, safety and environmental management, and robust government business systems.

New Lab ES&H contribution award goes to Steve Homann

Director George Miller presented Steve Homann, of HCD's Safety Program Division, with the first LLNL Distinguished ES&H Contributions Award on Monday. A \$5,000 prize accompanied the award.

The LLNL Distinguished Environment, Safety & Health (ES&H) Contributions Award recognizes the excellence of individuals or teams in the field of ES&H. The nature of the contribution should reflect exceptional service resulting in more effective ES&H practices and results. The level of excellence appropriate to the award implies sustained contribution to recognized ES&H activities.

To be eligible for nomination the nominee must have made a substantial impact on ES&H at LLNL or on a

national level; made significant contribution to ES&H through participation in a national, state or local board, division, section or committee; or advanced ES&H theory, research, or educational programs.

An evaluation committee comprised of members of the Operations Council and ES&H Working Group evaluated award nominations. According to the award committee: "Steve is nationally and internationally recognized for his work in radioactive dispersion consequence assessment. This includes support to NASA and the United Kingdom. The committee considers the award recognition of Steve's substantial career contributions to the institution and the DOE contractor community."



KATHI QUINZON/DIRECTOR'S OFFICE

From left to right: Becky Failor, HCD department head, Bill Bookless, associate director for Safety and Environmental Protection, Steve Homann, Director George Miller and Howard Wong, HCD Safety Programs Division leader.

Strict rules and procedures guide use of all energy sources at the Laboratory



Much of the Laboratory's work involves the use of energy to accomplish its mission. Yet uncontrolled energy can have tragic consequences.

The Laboratory operates under a strict set of rules to ensure that energy is not left uncontrolled. These rules are found in the ES&H Manual, Document 12.6, LLNL Lockout/Tagout Program. Often referred to as "LOTO" or "lockout," the essence of this program is to make sure that everyone works in the safest conditions. Under LOTO, all electrical, mechanical, hydraulic, pneumatic and other energy must be isolated, dissipated, locked out and tagged, and proper steps must be taken to verify that all energy is controlled. In other

words, energy sources must be brought to a zero-energy condition.

The lock and tag rules ensure complete control of the hazardous energy source, and that equipment cannot be re-energized or started until the lock is removed.

The zero-energy verification, the most important step, can never be skipped, and should always be conducted according to guidelines. Verification of a zero-energy condition by testing is the only way energy is controlled and that work can proceed in the safest possible manner.

Hazards Control reminds all employees that performance of electrical LOTO requires special work practices that only can be accomplished by qualified electrical personnel. Electrical energy is controlled and locked out using the same practices and procedures as for other ener-

gies, but determining a zero-energy state requires the use of test meters or test equipment. Personnel also must wear electrically protective equipment to perform this task. During this time, personnel also must assume that the equipment is still energized until testing verifies a zero-energy condition.

The basic rules for LOTO are found in the ES&H Manual, as well as the detailed LOTO procedures specific to a particular situation. Everyone must follow these rules and procedures. Do not skip any step, and remember to always verify a zero-energy condition. Lastly, lockout and tagging to control electrical hazards must be done only by qualified persons wearing proper personal protective equipment and using proper test equipment.

SCIENCE NEWS

Advance may aid understanding of virus and cell interaction

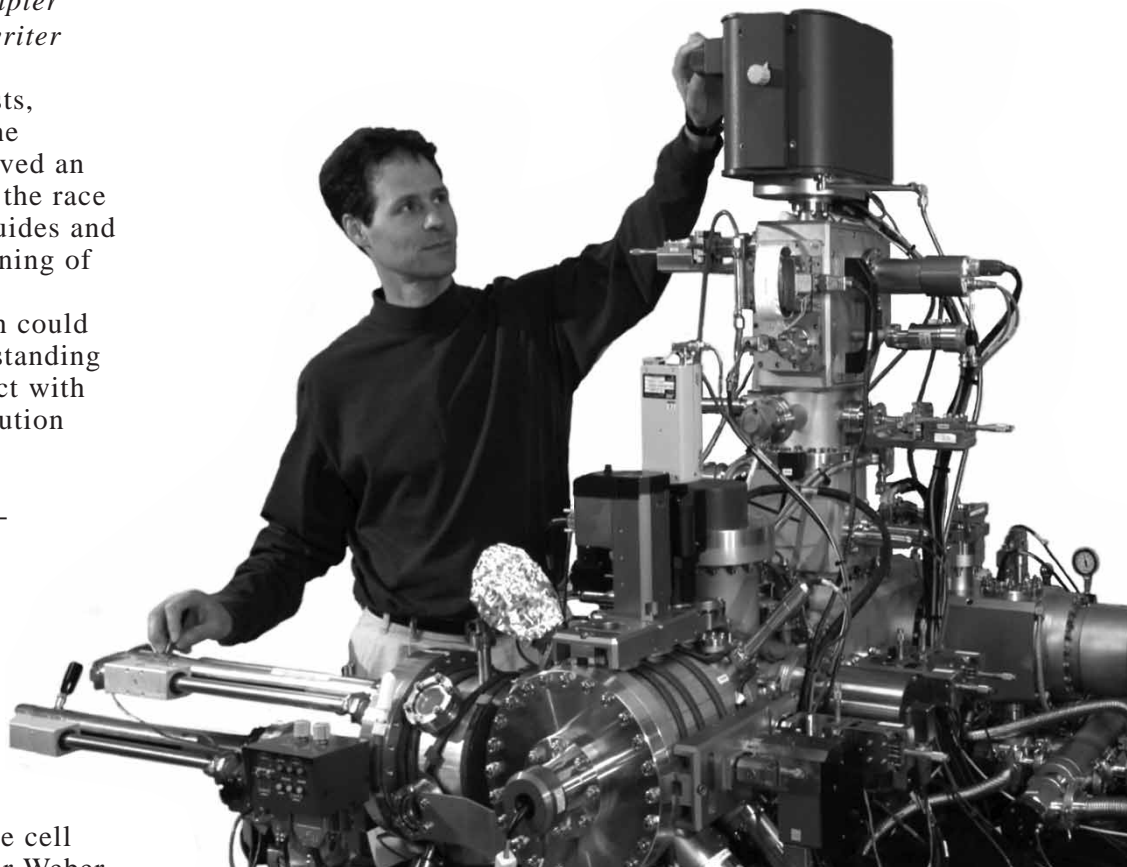
By Stephen Wampler
Newsline staff writer

A team of scientists, including two from the Laboratory, has achieved an important advance in the race to understand what guides and facilitates the functioning of the cell membrane.

Their work, which could assist in better understanding of how viruses interact with cells and in the attribution of bioterrorist acts, is described in the Sept. 29 edition of the journal *Science*.

"It is widely believed that lipids in the cell membrane form compositionally distinct domains, called lipid rafts, that serve a key role in the organization of the cell membrane," said Peter Weber, a physicist in LLNL's Chemistry, Materials and Life Sciences (CMLS) Directorate and in its Glenn T. Seaborg Institute. "Until now, there has been no way to test directly this hypothesis. We have demonstrated a method that can be used to directly test for the existence of lipid rafts in cellular membranes."

Ian Hutcheon, also a physi-



SCIENCE & TECHNOLOGY REVIEW

Lab physicist Peter Weber, shown using the Lab's high-resolution secondary ion mass spectrometer, the NanoSIMS, and fellow physicist Ian Hutcheon teamed with researchers from Stanford University and U.C. Davis in co-authoring a paper that appears in today's edition of *Science* magazine.

cist in CMLS and the deputy director at LLNL's Glenn T. Seaborg Institute, added, "Understanding how cells function is an extremely important goal and this work is one small, but valuable, step."

Other team members are: Mary Kraft, a postdoctoral researcher at Stanford University; Steven Boxer, a professor of chemistry at

Stanford; and Marjorie Longo, a professor of chemical engineering at the University of California, Davis.

The cell membrane is composed primarily of a fluid bilayer of lipids. Since the 1970s, it was thought that this lipid bilayer was a passive carrier for the proteins that performed the active work of the cell membrane.

In the new model, which is being tested by the Stanford/LLNL/Davis team, it is now believed that the lipids are responsible for actively organizing the functional proteins of the cell membrane.

"This is a very elegant hypothesis, under which the subtle affinities of certain lipids for each other make the cell membrane self-organizing, but it still is unproven," Weber points out.

The team's most recent experiment was something of a feasibility study to determine if, and to what degree, it might be possible to see and image lipid rafts in the membranes of cells.

In their experiment, the research team formed model cell membranes on silicon chips and induced the formation of tiny lipid raft-like gel domains. The membranes were then freeze-dried for analysis using the Lab's high-resolution secondary ion mass spectrometer, the NanoSIMS, one of only five such instruments in the United States.

Using the NanoSIMS, the scientists detected the gel domains at lateral dimensions as small as 100 nanometers (about 1,000 times smaller than the diameter of a human hair) and about five nanometers thick (about two or three molecular layers).

In medicine, the work could assist in better understanding how viruses interact with cells and in developing ways to short-circuit viruses attacking cells. In bioforensics, the research could assist LLNL scientists in characterizing structures within biological pathogens.

"If crimes or terrorist acts are committed, we want to be able to provide law enforcement authorities with all the information possible on the agents or spores that are used," Hutcheon said.

A third possible application, according to Weber, would be to use cell membrane components and the organizational secrets of the cell membrane to create the next-generation biological sensors with increased sensitivity and flexibility.



JACQUELINE MCBRIDE/NEWSLINE

Celebrating Lab's new directorate

Tomás Díaz de la Rubia, associate director for the newly formed Chemistry, Materials and Life Science Directorate, thanks employees for their work merging what had been Chemistry and Materials Science and the Bioscience directorates. R. Ann Bliss announced the event's various activities. The new directorate held its first annual picnic last week to mark completion of the merger.

SCIENCE NEWS

Marine experiment tests detection capability

By David Schwoegler
Newsline staff writer

Smoke detectors, radiant signs and a container load of bananas share some similarities. All three can move freely in commercial vehicles or vessels on highways and waterways. And all three can cause radiation detectors to alarm.

Smoke detectors contain small amounts of americium. Radiant signs glow because of tritium, a radioactive hydrogen isotope. And bananas, a fine source of dietary potassium, contain a small fraction of potassium-40 that emits ionizing radiation. A whole container-full will make a Geiger counter talk or tick.

From a national security perspective, a major hurdle in radiation detection is the issue of discrimination: How to pick out the bad stuff against a background containing multiple benign radiation sources. Enabling discrimination is complicated by the need for technical expertise to interpret the scientific signals emitted from complex detectors. When these instruments are focused on a commercial vessel that is under way, false positives can prove both economically costly and politically embarrassing.

Marine-enforcement first-responders face an enormous challenge attempting to screen cargo inside the endless stream of containers that enter a major facility like the Port of Oakland, fourth largest container port in the United States. Successful interdiction requires not only modern technology, but also excellent intelligence and communications.

"The best time to interdict nuclear materials is at sea, or well removed from our borders, not as the vessel is passing Middle Harbor and heading down the Oakland Estuary," Bill Dunlop of the National Security Office explained.

Dunlop and Arden Dougan are directing the Lab's



DON GONZALEZ/TID

Above: The Lab's Bill Dunlop (second from right) briefs law-enforcement and scientific participants before the radiation sources are brought aboard the target vessel. Inset: A federal agency worker examines a container housing a shielded depleted uranium source before it is secured aboard the target vessel.



participation with the Naval Postgraduate School (NPS) of Monterey in conducting a series of experiments aimed at detecting, identifying and interdicting nuclear materials in open waters. Alex Bordesky heads the efforts for NPS. This work with NPS is under a memorandum of understanding for cooperation between Livermore and NPS, and is supported by the National Security Office. Other participants and observers included elements from the Department of Defense, Department of Energy, Department of Homeland Security, other three-letter federal agencies, as well as military representatives from several nations.

In essence the experiments detect a moving vessel emitting signs of ionizing radiation. Coast Guard officers—and sometimes Laboratory researchers—playing Coast Guard Officers—board the vessel and take in-depth

readings with portable radiation-detection instruments. Those readings are immediately radio relayed to scientific experts, who may be continents away. Their results are radioed back to the boarding vessel for use by first responders on the scene.

At the end of August another in a series of three-day experiments was conducted in San Francisco Bay, between Yerba Buena Island and the Port of Oakland. Alameda County Marine Enforcement provided both the operations center and the boarding vessel, while the Oakland Police boat played the bad guy or target vessel.

"Experiments of this sort are iterative. We find out what works well, what needs improvement, and what's unsuccessful. The next exercise will incorporate improvements from the lessons learned this time," Dunlop said.

According to Dougan: "Our principal goals were to test communications between moving ships at a distance, and to be able to send large data files and communicate in real time."

NPS's Bordesky dubbed the exercise, "...another successful step.... We managed to conduct drive-by radiation detection, networking and collaboration with the boarding and target vessels on the move, together with ... geographically distributed expert/command teams."

"These important experiments could not take place without the cooperation of local marine enforcement agencies," Dougan said. "Their involvement makes a major contribution to cutting-edge science in the interest of national security. Participants view first-hand the scientific minds and cutting-edge technologies that combine to make our homeland a safer place to live. In the end, these agencies will be the ultimate users and the ultimate beneficiaries of what we're developing with their help today."

On the cover: With two radiation sources secreted aboard, the target vessel, a.k.a. the Oakland Police Boat, awaits the early morning start of a nuclear materials interdiction exercise conducted in the waters of San Francisco Bay and the Port of Oakland. The Laboratory was a principal participant in the experiment, which was conducted with the Naval Postgraduate School as the lead agency.



Inter-agency cooperation key to experiment's success

When language differences, cultural difference and time differences combine with the universal applicability of Murphy's Law, experiments of this nature could go awry at any step along the way.

What differentiated between disaster and success was the multitude of hands and minds carefully shepherding every step of the experiment to minimize chaos. Livermore participants included Arden Dougan, Bill Dunlop, Mike Cornell (DOE Livermore RAP Team Lead), Mike Frank, Zack Koenig, Ross Marrs, Jeremiah Gruidl, Gary Mattesich, Dave Trombino, David Schwoegler and Don Gonzalez. Additional helping hands were provided by four interns from Hawaii: Yusef

Marra, Tiari Kitagawa, Justin Delp and Tyler Enos who not only observed, but also assisted with the exercise under the supervision of Marjorie Gonzalez.

Major domestic participation was composed of the Naval Postgraduate School (lead), U.S. Coast Guard District 11 & PAC Area, U.S. Army Biometric Fusion Center, Alameda County Sheriff's Department Marine Unit, Oakland Police Department Marine Unit, the Company IST, Naval Surface Weapons Center and USSOCOM.

Global participants included Foo Yu Chiann of Singapore, CDR Leif Hanson of Sweden, Ulrich Hofmann and Ulrich Wagner of Austria.

SCIENCE NEWS

DNA analysis lends insight into sewer sludge

By David Gilbert
Newsline staff writer

Few stop to consider the consequences of their daily ablutions, the washing of clothes, the watering of lawns and the flush of a toilet.

However, wastewater treatment — one of the cornerstones of modern civilization — is the largest microbially-mediated biotechnology process on the planet. When it works, it is a microbial symphony in tune with humanity. When it fails, the consequences can be dire.

Researchers from the Joint Genome Institute and collaborators at the University of Wisconsin-Madison and the Advanced Wastewater Management Centre, University of Queensland, Australia, have published the first metagenomic study of an activated sludge wastewater treatment process. The research appeared online in the Sept. 24 edition of the journal *Nature Biotechnology*.

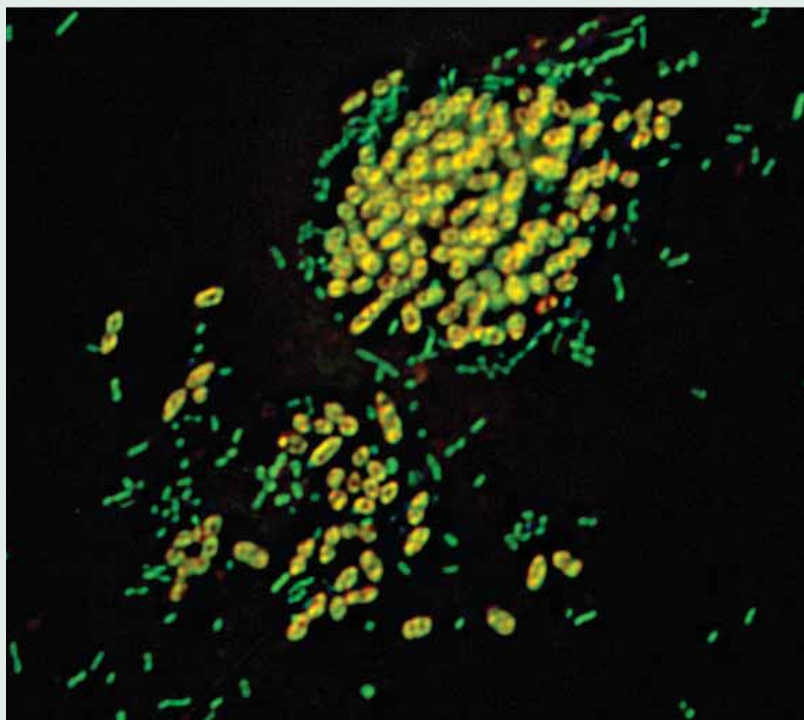
The metagenomic strategy entails generating DNA sequence information directly from samples of sewage sludge to provide a blueprint of the genes and hence the metabolic possibilities of the wastewater environment, with a view to understanding how the system works and predicting and averting failures or crashes.

"This is a first step in a much broader strategy employing a systems biology approach to the study of microbial communities with the goal of designing predictive models to understand how these communities function," said Hector Garcia Martin, lead author of the study and a post-doctoral fellow in JGI's Microbial Ecology Program.

"With this information now available, there are opportunities to bioengineer the process to make it more reliable."

Removing excess phosphorus from wastewater can be most economically accomplished by environmentally friendly biological means in a process known as enhanced biological phosphorus removal (EBPR). The researchers were able to obtain a nearly complete genetic blueprint for a key player in this process, the bacterial species *Accumulibacter phosphatis*.

Activated sludge wastewater treatment processes are used throughout the world to purify trillions of gallons of sewage annually. Many treatment plants employ specialized bacteria to remove the nutrient phosphorus, in an effort to protect lakes and rivers from eutrophication, a deterioration of water quality characterized by excessive algae blooms. *Accumulibacter* play a vital role in wastewater management, accumulating massive amounts of phosphorus inside their cells.



TRINA MCMAHON, UNIVERSITY OF WISCONSIN-MADISON

Fluorescent *in situ* hybridization of EBPR sludge. *Accumulibacter* cells appear in yellow, other bacteria in green.

"Engineers and microbiologists have been trying for 35 years to grow this microbe, with no success," said Trina McMahon, assistant professor, Department of Civil and Environmental Engineering, University of Wisconsin-Madison, and one of the study's authors. "Remarkably, through metagenomic techniques, we were able to isolate and acquire the genome sequence of *Accumulibacter* phosphatis without a pure culture of the organism, which, like most microbes, eludes laboratory culture. We expect that clues hidden in the genome will lead to domestication of this mysterious organism, enabling further studies of its habits and lifestyle."

"The genome sequence will also enable biologists and engineers to understand why and how these organisms accumulate phosphorus, and it will lead to major advances in optimizing and controlling the EBPR wastewater treatment process," McMahon said. "In particular, it makes possible further research into why some wastewater treatment plants occasionally fail. These failures often result in serious pollution of lakes, rivers and estuaries."

When things go wrong, the environment can be inundated with untreated phosphorous, carbon and nitrogen — the detritus of human activities — necessitating costly and environmentally taxing remedies and exposing the public to potential disease hazards. The scale is daunting — more than 31 billion gallons of wastewater are treated daily in the United States alone. Even a marginal improvement in the process would translate into huge savings and spell relief for environmental engineers.

David Jenkins is professor emeritus of environmental engineering at UC Berkeley. His research spans some forty years of international professional practice in water and wastewater chemistry and wastewater treatment for government, municipalities and industry. He has specialized in the chemical precipitation of phosphate from wastewater and sludges, the causes and control of activated sludge bulking and foaming, and biological nutrient removal.

"The findings and tools described in this landmark paper will allow the resolution of many of the questions that have arisen concerning the mechanism by which the enhanced removal of phosphate from wastewater occurs," Jenkins said.

"Understanding these mechanisms will undoubtedly lead to more efficient operation of the process and to the development of more robust designs."

Microorganisms are well equipped to do the job, but activated sludge is a black box, at least for those engineers who are dependent on the microbial aspect of the equation. To shed some light on the challenge, the team compared sludge samples from wastewater plants in Madison, Wis. and Brisbane, Australia, that they maintained in laboratory-scale bioreactors to control and monitor the status of the sludge microbial communities.

"We found functions that didn't make sense for the current lifestyle of the organism," said Phil Hugenholtz, head of the JGI's Microbial Ecology Program. "*Accumulibacter* have all the genes necessary to fix carbon and nitrogen, which they would be compelled to do in a nutrient-poor environment like freshwater, but presumably wouldn't have much use for in nutrient-rich EBPR sludge. So it got us thinking that these bacteria must be living in natural habitats and that they have become opportunistically adapted to this manmade process, wastewater treatment."

It would appear, Hugenholtz went on, that *Accumulibacter* has been following in humanity's environmental footprints. "The genomes of the bacteria from the two sites were surprisingly similar — practically identical in parts — from samples separated by nearly 9,000 miles."

The work was conducted under the auspices of JGI's Community Sequencing Program (CSP). The goal of the CSP is to provide a world-class sequencing resource for expanding the diversity of disciplines — oceanography, geology and ecology, among others — that can benefit from the application of genomics, particularly at the intersection with DOE mission areas of bioenergy, carbon cycling, and bioremediation. JGI's Genome Biology Program contributed invaluable expertise and insight for the genome analysis and the metabolic reconstruction of the microbial population.

LAB EVENTS

Nail down Oct. 25 for this year's HOME run and agency fair

It's hammer time so nail the date: Oct. 25. Each year, the Run for HOME kicks off the Laboratory's annual HOME (Helping Others More Effectively) Campaign. The National Ignition Facility (NIF) is this year's sponsor of the Run for HOME.

Fun and entertainment

This year's theme is "Builders Are Us." Participants are encouraged to come out in costume as your favorite tradesperson or in a decorated hard hat. The five costume and hard hat award categories are: most humorous, most creative, most crazy, most OSHA-compliant and best large group. All levels of runners and walkers are encouraged to participate to build support of our community agencies as the Lab

kicks off the 2006 HOME Campaign.

Everyone participating in the run will receive free refreshments and a T-shirt. Music will be provided by TID's "Free Lunch" band, a classic rock and blues ensemble comprised of Technical Information Department employees.

HOME Agency Fair

The Administration and Human Resources Directorate (AHRD) and Biosciences and Biotechnology Divisions of Chemistry, Materials and Life Sciences are co-sponsoring the 2006 HOME Campaign.



All employees are invited to learn about some of the nonprofit agencies featured in the HOME Campaign by visiting the tented agency fair in parking lot Z-1. The fair will be open between 11:30 a.m. and 1:30 p.m. Representatives will be ready to answer questions and provide information about their agencies and how employees can build a brighter opportuni-

ty for those less fortunate within the community. Parking lots A-1, A-2, Z-1, Z-2, Z-3, Z-4, and Z-7 will be closed from 11 a.m. to 2 p.m.

For more information about the 2006 HOME Campaign and Run for HOME, visit the Website at <http://home.llnl.gov/index.htm>

Vintage vehicles



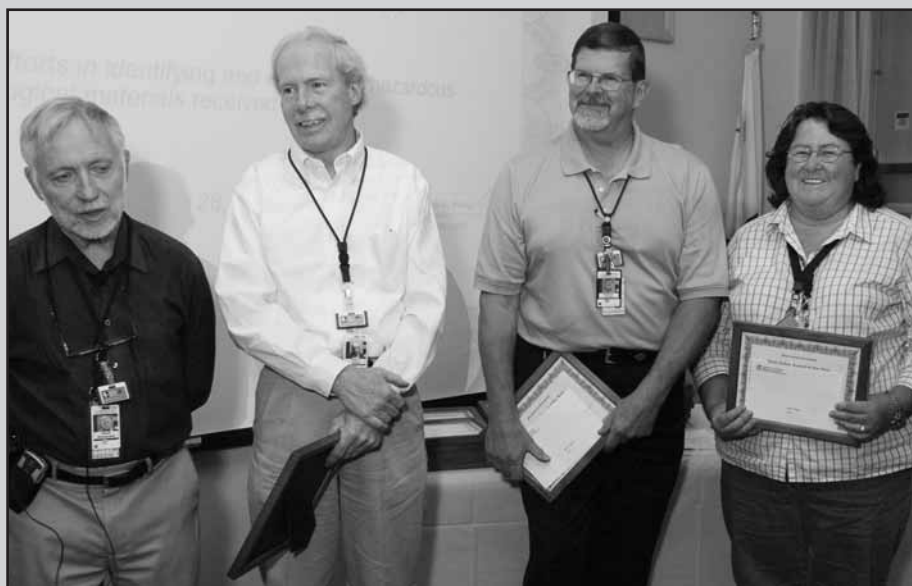
Annette Carpenter won "best in truck" for her vintage vehicle at last week's annual Vintage Vehicle Show.

NASA astronaut visit

Dave Leary, deputy director for Operations, greets Jose Hernandez, former LLNL engineer, who talked about his astronaut training experience during a presentation in honor of Hispanic Heritage Month at the Lab this week. Hernandez joined NASA in 2004 and will work various technical assignments until assigned to a spaceflight as a mission specialist. The talk was sponsored by the Lab's Work-Life Center and Amigos Unidos employee networking group, in partnership with Sandia National Laboratories Hispanic Leadership Council.



JACQUELINE MCBRIDE/NEWSLINE



JACQUELINE MCBRIDE/NEWSLINE

Bio awards

Elbert Branscomb (left) presided over the final performance awards ceremony Thursday for members of the former Biosciences Directorate, which recently merged with the Chemistry and Materials Science Directorate. Among the award winners were (left to right) Paul Jackson, Brynte Johnson and Patsy Gilbert, members of the team that won BIO's Gold Safety Award of the Year for their "exemplary efforts" in identifying and eliminating hazardous biological materials received at the Lab. Other team members were Monica Borucki and Kris Montgomery. For a complete list of award recipients, see next Monday's *NewsOnLine*.

in MEMORIAM

Robert Wren O'Donnell

Retired Laboratory technician Robert Wren O'Donnell died Sept. 15. He was 82.

O'Donnell was born in Chippewa Falls, Wis., Nov. 8, 1923. In 1941, he joined the U.S. Navy and served as an aviation engineer, which allowed him to indulge his passion for all things mechanical. He also served in the Air National Guard and later as an active member of the Veterans of Foreign Wars, in which he was a former post commander and member of the color guard.

A resident of Livermore for 50 years, O'Donnell was hired at Lawrence Berkeley Laboratory as a mechanical technician in 1951 and came to Lawrence Livermore in 1953. He was at Bikini Atoll for the nuclear tests and also worked at the Nevada Test Site. He retired as superintendent of mechanical technicians after 34 years at LLNL.

An inventor by nature, his hobbies included wood working; mechanical puzzles; fishing and trips to Yellowstone National Park.

He is survived by his wife of 62 years, Jeanne; three children, daughter Peggy and husband Ted Anderson, Jane and husband John Nunes, and son Tim O'Donnell and wife Sandy; sister, Betty Nietz, and his faithful dog, Toto.

O'Donnell was buried in a private military service.

Vicente H. Gaitan

Vicente H. Gaitan died Aug. 30. He was 88.

Born in Shafter, Texas, Gaitan lived in Tracy for 47 years. He worked as a custodian at the Lab for 24 years at Site 300, and retired in 1983.

He enjoyed listening to Mexican music, watching the Oakland Athletics and spending time with his family.

Gaitan is survived by his children, Victor Gaitan Sr. and wife Irma, and Vincent Gaitan, all of Fresno; Annie Cuellar, and her husband Joe and their children, of Manteca; Graciela Navarro of Tracy; grandchildren, Victor Gaitan Jr. of Long Beach, Valerie Castaneda of Fresno, Gabrielle and Michelle Cuellar, both of Manteca, and Francisco Navarro of Tracy; great-grandchildren, Victoria, Carolina and Lorenzo Castaneda, all of Fresno; and many nieces and nephews of Southern California and Arizona.

He was preceded in death by his wife, Tomasa Gaitan; son, Humberto "Juan" Gaitan; and grandson, Rudy Cuellar.

Services were held in Tracy.

Alvin Kruger

Alvin Kruger, a longtime Livermore resident, died Aug. 29. He was 76.

Kruger worked for 30 years at the Lab as a maintenance machinist in Plant Engineering, retiring in 1988.

He enjoyed spending time at his property in Mendocino, fishing, hunting, driving his restored '55 Chevy and going on cruises.

He is survived by his wife of 52 years, Rosaria of Livermore; children Cindy Kruger, Julie Gerow and her husband Arthur, Vicki Peterson and her husband Doug, Kris Kruger and six grandchildren.

Services were held in Hayward.

PEOPLE NEWS

David L. Redhead

David L. Redhead, a longtime Lab employee, died Aug. 1. He was 74.

Redhead was a member of the Neutron Measurement Group in the Lab's former L Division (Nuclear Test Program).

He enjoyed riding his Harley Davidson motorcycle, fishing and reading the encyclopedia. He maintained a successful TV repair business.

He is survived by his wife of 51 years, Lena; his children Roger and Roseann; and two granddaughters, Shannon and Andrea.

Karma Thomas

Karma Thomas who retired from the Lab in 2001, died Aug. 19.

After retiring, Thomas moved from the Bay Area to Stockton with her partner of 20 years, Margie Brown. She worked with the LLESA office to facilitate the Red Cross blood drives at LLNL, helping donors and volunteers.

She was involved locally and nationally in the ecumenical ministry, Kairos Outside. She directed Livermore's Del Valle Dog Club and Lodi's Animal Friends Connection. She was active at Cornerstone Fellowship in Livermore and Mayfair Christian Church.

Thomas is survived by her sister, DeeDee McNair; daughters, Karen Menard and Wendy Thomas; and grandchildren, Jason Kleist, Jennifer Kleist, Bryan Commeau, Sierra Preston and Charles Preston.

Memorial gifts in her name may be sent to Animal Friends Connection, P.O. Box 2324, Lodi, CA 95241 or to Kairos Outside, P.O. Box 1753, Pacifica, CA 94044.

Alfred F. Waugh

Alfred F. Waugh, a resident of Pleasanton for 50 years, died Sept. 5. He was 80.

Born in Oakland, Waugh served in the U.S. Army. He graduated from Berkeley, with an engineering degree and worked at the Laboratory for 30 years.

He was an active member of the First Church of Christ Scientist in Livermore.

He enjoyed sightseeing and camping in the family motor home, and traveling throughout the country.

He is survived by his wife of 56 years, Carol Waugh; daughter Carolyn Rinetti; son Bryan Waugh; and sister Mary Ellen Weeks.

Contributions in his memory may be made to the First Church of Christ Scientist in Livermore.

Laboratory's flu clinics to begin Oct. 3

Health Services has received a supply of 3,500 doses of flu vaccine for the 2006-2007 flu season. Flu clinics will be held on Tuesdays and Thursdays in Bldg. 663 from 7:30-10:30 a.m., during October. The vaccine will be provided at no cost to LLNL employees on a first-come, first-served basis, until the supply is depleted. Consent forms will be available at the clinics.

For more information about the flu vaccine, flu prevention and treatment, other sources of vaccine, symptoms of the flu versus the common cold and avian flu, consult the Health Services Website: <http://www-r.llnl.gov/healthserv/Services/fluclinic.html>.

For questions about the flu clinics, call Jeanette Landucci, 4-4516.

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IN PROFILE

Dragon racing sparks Scott Couture's competitive flame

By Linda Lucchetti
Newsline staff writer

Scott Couture is a weekend warrior. As an active member of the Dragon Warriors — a San Francisco Bay Area dragon boat racing team — he is busy every weekend and up to two nights a week either competing or practicing for upcoming events.

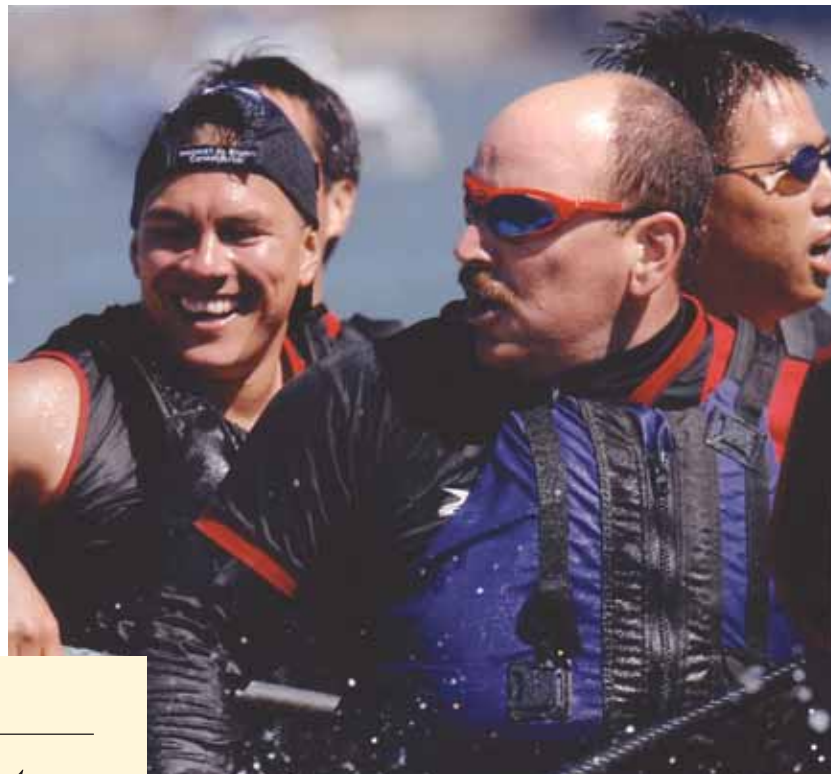
Last weekend, the team raced with more than 100 other teams in a competition off Treasure Island, winning silver and bronze medals in the most competitive men's and women's divisions. But the highlight of the year was representing the U.S. and competing at the Club Crew World Championships in Toronto last month — a goal that kept the team paddling every weekend except one since qualifying for the championships a year ago.

Couture, core surveillance project leader in the Weapons Program in Engineering and an avid cyclist, says his love for dragon boat racing, today's fastest growing sport, began some eight years ago when two Lab co-workers recruited him for the then-LLESA (Lawrence Livermore Employee Services Association) dragon boat racing team — We Be Dragon.

"I was hooked," Couture says. There's no doubt about that. Just step into his office in Bldg. 131 and survey the surroundings. Walls are covered with medals dangling from ribbons while displayed alongside are trophies, posters and fliers. The man is not only a serious competitor but also a devout admirer of the sport.

"One of the reasons I like the sport is because I look for balance in upper and lower body workouts. Cycling is pretty much all lower body, and boat racing really helps balance things out," he says demonstrating the particular moves needed to paddle using his arms, but also a lot of back and leg muscles. "And, there is a certain mentality — a relaxing synchronization — that takes place. You can't be thinking about work while you're paddling at better than a stroke a second in time with 19 other paddlers," he says.

Dragon boat racing has ancient Chinese origins whose history has been traced back more than 2,000 years to the southern provinces of China. It is one of the largest annual festivals in China.



PHOTOS CORTESEY OF SCOTT COUTURE

Scott Couture, center, focuses on another victory at a recent dragon boat race.

Couture says that the sport fosters a sense of team work and team building. "It is intense. Twenty paddlers along with a drummer and a steersperson are packed into a 40-foot long canoe-like boat paddling frantically to beat the other teams down the course. They track 500 meters on the water at a speed of 15 to 17 kilometers per hour and a 75-80 stroke rate," he explains. Competitive teams usually cover the 500 meters in two minutes or less. Sprints of 250 meters are crazy-fun at a 90-95 stroke rate and under a minute long."

In a typical race, there are six to eight boats competing. The drums, shouting and colorful boats

make it an impressive and exciting sport both to watch and to compete in.

The Dragon Warriors have garnered many wins and have traveled around the world — Toronto, Montreal, Vancouver, Malaysia, Macau, China, Japan, Houston and, of course, up and down the West Coast. With the team members maturing, they can look forward to achieving the master category for the over-40 set and the grandmaster division for 55 plus.

Couture is looking forward to dragon boat racing making a come back at the Lab next year, resurrecting the We Be Dragon spirit of 1999. Sharon Beall, a team-mate and fellow Lab employee, is organizing the team.

"Dragon boat racing is the ultimate team sport," Couture adds. "There are teams of blind paddlers and a whole community of cancer survivor teams. It's easy to see why it's the world's fastest growing sport. And, it offers a social community. I've attended four Chinese weddings this year and learned a lot of culture I never would have known."

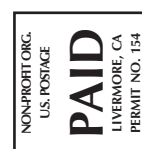
If you are interested in learning more about dragon boat racing, contact Couture at 3-4100 or to sign up for the Lab team, contact Sharon Beall at 2-8784.

“
Dragon boat
racing
is the
ultimate team
sport.”

— Scott Couture



Scott Couture, center, and the Warrior Team are in sync as they paddle toward the finish line.



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